Listing of Claims

1. (currently amended) A method for connecting a vessel to another vessel comprising:

providing ~~obtaining a graft vessel device comprising~~ a synthetic graft vessel having a first end and a second end, ~~an anastomosis device attached to a first end of the graft vessel and~~ the second end coupled with a stent such that portions of the stent are fixedly attached to [[a ]] the second end of the graft vessel[[,]];

anastomosing the first end of the graft vessel to a side of ~~a first vessel~~ an artery ~~via the anastomosis device~~ to yield an end-to-side anastomosis[[, and]];

inserting an introducer into a vein;

inserting a sheath into the vein such that, when both the introducer and the sheath are in the vein, at least a portion of the introducer is within the sheath;

removing the introducer from the vein;

inserting the second end of the graft vessel into the sheath such that at least a portion of the stent is within the vein; and

removing the sheath from the vein such that ~~anastomosing~~ the second end of the graft vessel is anastomosed to the vein ~~to a second vessel~~ via the stent to yield an end-to-end anastomosis, wherein a first end of the stent is within the vein and a second end of the stent is outside the vein.

2. (canceled)

3. (canceled)

4. (currently amended) The method of claim 1, wherein the stent is fixedly attached to ~~the exterior surface of the graft vessel at~~ the second end of the graft vessel via a polymer.

5. (cancelled)

6. (cancelled)

7. (withdrawn – currently amended) The method of claim 1, wherein ~~the second end of the graft vessel is attached to the second vessel by inserting the second end of the graft vessel into the lumen of the second vessel and then allowing the~~ removing the sheath from the vein allows the stent to unfold.

8. (withdrawn – currently amended) The method of claim 1, wherein ~~the second end of the graft vessel is attached to the second vessel by inserting the second end of the graft vessel into the lumen of the second vessel and then allowing the~~ removing the sheath from the vein allows the stent to expand.

9-25. (cancelled)

26. (new) The method of claim 4, wherein the polymer is a polyurethane.

27. (new) The method of claim 1, wherein the stent is fixedly attached to the exterior surface of the graft vessel.

28. (new) The method of claim 1, wherein when the sheath is removed from the vein, a perimeter length of the second end of the graft vessel remains substantially constant.

29. (new) The method of claim 1, wherein the first end of the graft vessel is anastomosed to the artery before the second end of the graft vessel is anastomosed to the vein.

30. (new) The method of claim 1, wherein the second end of the graft vessel is anastomosed to the vein before the first end of the graft vessel is anastomosed to the artery.

31. (new) The method of claim 1, wherein the first end of the graft vessel is anastomosed to the artery without suturing.

32. (new) A method of interconnecting blood vessels, the method comprising:

providing a synthetic graft vessel having a first end and a second end, the second end including a stent positioned within a first sheath;

anastamosing the first end of the graft vessel to the side of an artery;

inserting a second sheath into a vein;

advancing the first sheath into the second sheath such that at least a portion of the stent that is within the first sheath is also within the vein;

removing the second sheath from the vein; and

removing the first sheath from the vein such that, when both the first and second sheaths have been removed from the vein, the second end of the graft vessel is anastomosed to the vein in an end-to-end anastomosis.

33. (new) The method of claim 32, wherein at least a portion of the stent is fixedly attached to the second end of the graft vessel via a material.

34. (new) The method of claim 33, wherein the material is an adhesive.

35. (new) The method of claim 32, wherein when the sheath is removed from the vein, a perimeter defined by the second end of the graft vessel does not significantly increase in length.

36. (new) The method of claim 32, wherein the stent is in a folded configuration when within the first sheath.

37. (withdrawn – new) The method of claim 32, wherein the stent is permitted to unfold upon removal of the first and second sheaths.

38. (withdrawn – new) The method of claim 32, wherein the stent defines an interior lumen that expands within the vein when the first sheath is removed and without the aid of devices within the lumen of the stent.

39. (new) The method of claim 32, wherein the first end of the graft vessel is anastomosed to the artery before the second end of the graft vessel is anastomosed to the vein.

40. (withdrawn – new) A method of interconnecting blood vessels, the method comprising:

providing a synthetic graft vessel having a first end and a second end, the first end configured for end-to-side anastomosis to an artery, the second end configured for end-to-end anastomosis to a vein, an inner surface of the second end defining a lumen and at least a portion of an outer surface of the second end being fixedly attached to a stent;

creating an opening in a sidewall of the vein such that the sidewall defines a peripheral edge about the opening;

inserting the stent into the vein through the opening such that a first portion of the stent is within the vein and a second portion of the stent is outside the vein, the stent being in a first state in which the stent does not touch the peripheral edge of the sidewall of the vein;

transitioning the stent to a second state in which the graft vessel and the vein form a seal due to the size of the opening in the sidewall of the vein relative to the size of the stent and forces applied respectively by the stent to the peripheral edge of the vein and by the peripheral edge of the vein to the stent and to the second end of the graft vessel, and wherein the stent applies sufficient force to the vein and to the second end of the graft vessel to permit blood to flow between the artery and the vein via the graft vessel.

41. (withdrawn – new) The method of claim 40, wherein the second end of the graft vessel defines a perimeter that does not significantly increase in length when the stent is transitioned from the first state to the second state.

42. (withdrawn – new) The method of claim 40, wherein the stent is folded when in the first state and is unfolded when in the second state.

43. (withdrawn – new) The method of claim 40, wherein an adhesive attaches at least a portion of the outer surface of the second end of the graft to the stent.

44. (withdrawn – new) The method of claim 43, wherein the adhesive is a polyurethane.

45. (withdrawn – new) The method of claim 40, wherein the stent is transitioned from the first state to the second state without the aid of devices within the lumen defined by the second end of the graft vessel.

46. (withdrawn – new) The method of claim 40, further comprising:

inserting a portion of an introducer and a second sheath into the vein;

removing the introducer from the vein;

inserting a portion of a first sheath into the second sheath such that at least a portion of the first sheath is within the vein, at least a portion of the stent being positioned within the first sheath; and

removing the first sheath from the vein.